

Applicant
Application No
Title

Attorney
Express Mail No.

Bernard P. Meuli et al.

09/484,786

Confirmation No. 4894
DNA SEQUENCES CODING FOR THE DR β -CHAIN LOCUS OF
THE HUMAN LYMPHOCYTE ANTIGEN COMPLEX AND POLYPEPTIDES,
DIAGNOSTIC TYPING PROCESSES AND PRODUCTS RELATED THERETO
Margaret A. Pirnat, Reg. No. 30,709, Tel: (212) 596-9000
ET943347667US

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Group Art Unit: 1634



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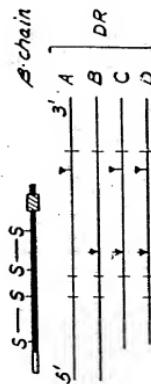
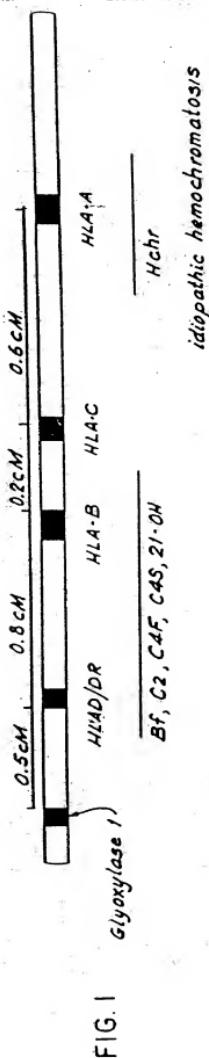
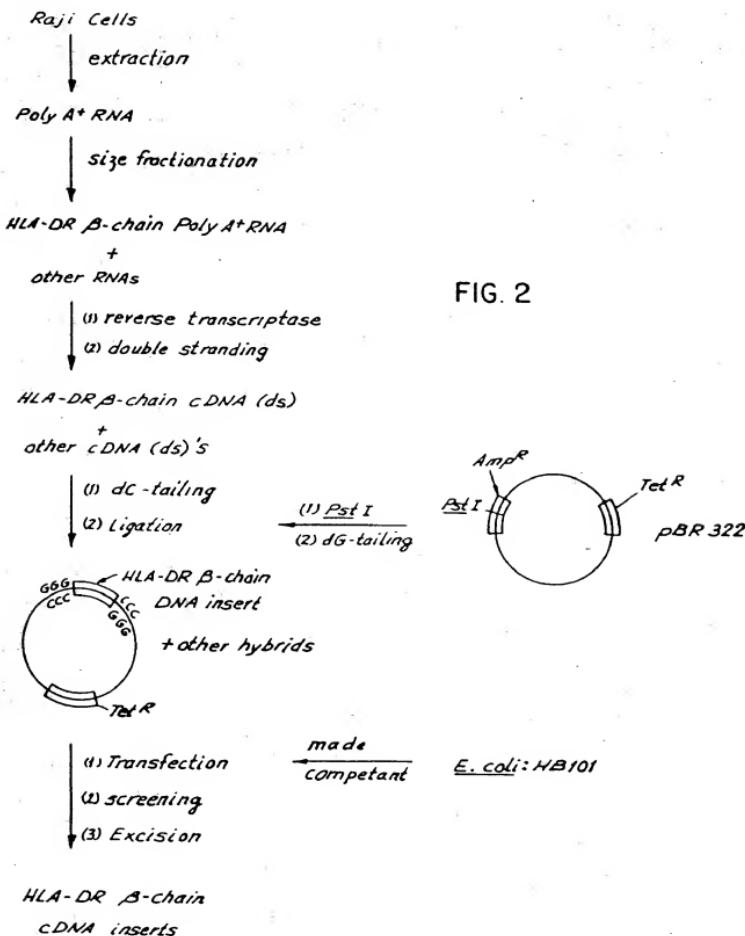


FIG. 4

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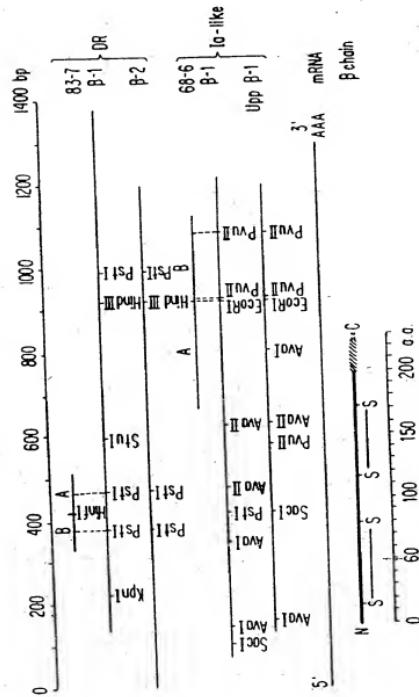
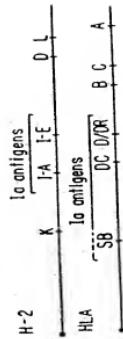
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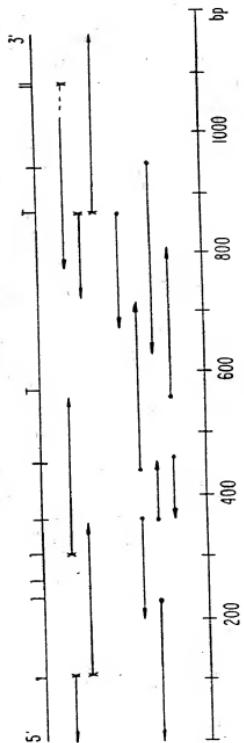
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FIG. 5A



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-29
M V C L
AAG CCT GGA GGC TCC AGC TTG GCA GCG TGT ACA GTG ACA 47

(G)_n CTCCCTGGCCCCCTGGTCCCTCTCTCCAGC ATG GTG TGT CTG

K L P G S S L A A L T V T
AAG CTC CCT GGA GGC TCC AGC TTG GCA GCG TGT ACA GTG ACA 89
L M V L S S R L A F A G D T
CTG ATG GTG CTG AGC TCC CGA CTG GCT TTC GCT GGG GAC ACC 131

R P R F L E L L K S E C H F
CGA CCA CGT TTC TTG GAG CTG CTT AAG TCT GAG TGT CAT TTC 173

F N G T E R V R F L E R H F
TTC AAT GGG ACG GAG CGG GTG CGG TTC CTG GAG AGA CAC TTC 215

H N Q E E Y A R F D S D V G
CAT AAC CAG GAG GAG TAC GCG CGC TTC GAC AGC GAC GTG GGG 257

FIG. 5B

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50 E Y R A V R E L G R P D A E 299
GAG TAC CGG GCG GTG AGG GAG CTG GGG CCT GAT GCC GAG
60 Y W N S Q K D L L E Q K R G 341
TAC TGG AAC AGC CAG AAG GAC CTC CTG GAG CAG AAG CGG GGC
Q V D N Y C R H N Y G V V E 383
CAG GTG GAC AAT TAC TGC AGA CAC AAC TAC GGG GTT GTG GAG
90 S F T V Q R R V H P Q V 100
AGC TTC ACA GTG CAG CGG CGA GTC CAT CCT CAG GTG ACT GTG 425
Y P A K T Q P L Q H H N L L
TAT CCT GCA AAG ACC CAG CCC CTG CAG CAC CAC AAC CTC CTG 467
V C S V S G F Y P G S I E V 509
GTC TGC TCT GTG AGT GGT TTC TAT CCA GGC AGC ATT GAA GTC

FIG. 5C



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R	W	F	R	N	G	Q	E	E	K	A	G	V	V	140
AGG TGG TTC CGG AAC GGC CAG GAA GAG AAG GCT GGG GTG GTG														
S	T	G	L	I	Q	N	G	D	W	T	F	Q	T	551
TCC ACG GGC CTG ATC CAG AAT GGA GAC TGG ACC TTC CAG ACC														
L	V	M	L	E	T	F	P	R	S	G	E	V	Y	150
CTG GTG ATG CTA GAA ACA TTT CCT CGG AGT GGA GAG GTT TAC														
T	C	Q	V	E	H	P	S	V	T	S	P	L	T	170
ACC TGC CAA GTG GAG CAC CCA AGC GTA ACG AGC CCT CTC ACA														
V	E	W	S	A	R	S	E	S	A	Q	S	K	M	180
GTG GAA TGG AGT GCA CGG TCT GAA TCT GCA CAG AGC AAG ATG														
L	S	G	V	G	G	F	V	L	G	L	L	F	L	210
CTG ACT GGA GTC GGC GGG CCC TTT GTG CTG CGC CTC TTC CTT														
200	761													

FIG. 5D

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G	A	G	L	F	I	Y	R	N	Q	K	G	H	803
GGG	GCC	GGG	CTG	TTC	ATC	TAC	TTC	AGG	AAT	CAG	AAA	GGG	CAC
S	G	L	Q	P	T	G	F	L	S				847
TCT	GGA	CTT	CAG	CCA	ACA	GGA	TTC	CTG	AGC	TGA	AGT	GGC	AGATGTA
CAATT	TAAGGA	AAAGA	ATCTT	CCCCAGC	GT	TG	CAGGATG	AAAAGCTT	TCCC	GGCC			902
TGGCTGTT	ATT	TCT	CCAC	GAGAG	AGGGCT	TTC	TCA	GGACCT	AGT	TGCTACTGGTT			957
CAGCAACT	TGCGA	AAAAT	GTC	CTCC	TGCT	GGCT	TCT	CAG	TTC	CTGCC	CTTG	GGCC	1012
TGAAGT	CCCAGCAT	TGATGG	CAGCGC	CTCAT	TCTCA	AACTT	TGTG	TCT	CCC	CTTG			1067
CCTAAAC	CCCTATGG	CCCTG	TGCA	TCTGT	ACT	ACCC	CTGT	ACCA	AAAC	ACATT			1122
ACATT	ATTAAATG	TCTCAA	AGATGG	AGTT	AAAAAA	(C)	n						1160

FIG. 5E

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S

10	20	40	60
GOTRPRFLELLKSECHFFGTERVFLERHFNQEEYARFDSDVGEYRAVRELGRPDAEYNNSQKDLQOKRGGOVCNC			

DR4, 6

DR2, 2

DC

"HQPR-R-----O-Y-Y---SV-----F---T-----I---A-AA---T-----I---R---AA---RV-----F---TL---L-A-----I--R-----

FIG. 6A

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100
80
DR4,6 RHNHYGVVESFTVQRRVHPQVTVPYPAKTPQPLQHHNNLV
DR2,2 -----Q-K-----S-----
DC -----QVELRT-L-----E-T-----IS-SR-EA-N-----

FIG. 6B

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S-----
| 120 | 140 | 160 |
| CSVSCFIPGSIEVRWFRNGQEEKAGVUSTGLIQNGDWTFQTLVMLLETPRSGEVYTC
|
DR 4, 6
DR 2, 2
DC
---TO---AQ-K---D---T---P---R---I---MT---QR---O---

FIG. 6C

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220
200
180
160
DR 4, 6 QVEHPSVTSPLTVWSARSQSKM [LSGVGGFVLGLLFLGAGLFYF] RNQKGHSGLQOPTGFLS
DR 2, 2 -----R-----
DC H----LQ--I---R-Q-----1-----1-----I-----L---I---HH-----S----LLH

FIG. 6D

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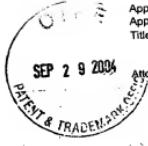


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FIG. 7

A GTT CTC CCT GAG TGA GAC TCA CCT GCT CCT CTG GCC CCT GGT CCT GTC CTG TCC AGC ATG ^Y GAT GTG KAG F ^G PCC GGA 85
GGC ^S CCC GAC ACG ^M GCA GCT ^T GCA TGT ^N ATG GTG ^L AGC ^H TGT ^S CCA CTG GCT ^P TGT A ^R G ^D GAC ACC CGA CCA CGT TGT ^T TG 172
EAG CAG GTT ^I KAA CAT ^E GAG ^F GT ^C AT ^H TGT ^N AC ^G GGG AGG ^L GGG GTG ^E GGG TGT ^B GAC AGA ^Y GAG ^V GAC 259
VGT ^R GGC TTC GAC ^S AGC ^D GAC ^Y GGG EAG ^G TGT ^V AGC ^G GGG TGT ^A GAG ^W GGT GAG ^P CTC GAT ^Q GCT GAG ^U AAC ^W AAC ^Q GAG ^B GAC 346
TTC ^T TGT ^E GAG ^Q GAG ^A GGC ^G GGC ACC ^Y TAC ^R GAC ^Y GCA ^H AAC ^N YAC ^E GGG CTT ^S GGT ^F GAG ^U GGC ^V GAC 433
TAT ^P CCT ^E GAG ^Y GGT ACT ^G CCT GCA ^A AGG ACC ^Q GAG ^I CCC ^L TGT ^K GAC ^C AAC ^T TGT ^J GTC ^S GTC ^Y GAT ^P CCA 520
GGC ^S AGC ATT ^E GAA GTC AGG ^H GGC ^M TGT ^F TGT ^N AAC ^G AAC ^E GGC ^Q GAG ^W GAA GAG ^A AG ^U GTC ^Y GGT ^V GAC ^W GGG 607
100 V ^Y P CCT GGT ACT ^G CCT GCA ^A AGG ACC ^Q GAG ^I CCC ^L TGT ^K GAC ^C AAC ^T TGT ^J GTC ^S GTC ^Y GAT ^P CCA 110
120 V ^Y P CCT GGT ACT ^G CCT GCA ^A AGG ACC ^Q GAG ^I CCC ^L TGT ^K GAC ^C AAC ^T TGT ^J GTC ^S GTC ^Y GAT ^P CCA 130
140 V ^Y P CCT GGT ACT ^G CCT GCA ^A AGG ACC ^Q GAG ^I CCC ^L TGT ^K GAC ^C AAC ^T TGT ^J GTC ^S GTC ^Y GAT ^P CCA 150
160 V ^Y P CCT GGT ACT ^G CCT GCA ^A AGG ACC ^Q GAG ^I CCC ^L TGT ^K GAC ^C AAC ^T TGT ^J GTC ^S GTC ^Y GAT ^P CCA 170



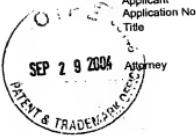
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FIG. 7A

ACC CTC CGG ACC TGG TTG CTA CTG GTT CAG CAG CTC TGC AGA AAA TGT CCT CCC TTG TGG CTC CAT TCT GCC TTT GCA TGT GTA 1129
 TGA AGT CCC AGC ATT AAT GGC AGC CCC TCA TCT TCC AAG TTT TGT GCT CCC CTT TAC CTA ATG CTT CCT GCG TCC CAT GCA TGT GTA 1215
 GAT GAC CAC ATT CAA GGA AGA ACC TTC TGC CCC AGC TTT GCA GGA TGA AAC ACT TCC CCG CTT GGC TCT CAT TCT TCC ACA AGA GAG 955
 FTC CTT GGG GCC GGG CTG TTC ATC TAC FGT TGG AAT CAG AAA GGA CAC TCT GGA CCA ACA GGA TGT AGC TGA AGT GAA 868
 FGT CTT GGG AGC GGG CTG TTC ATC TAC FGT TGG AAT CAG AAA GGA CAC TCT GGA CCA ACA GGA TGT AGC TGA AGT GAA 230
 FGT CTT GGG AGC GGG CTG TTC ATC TAC FGT TGG AAT CAG AAA GGA CAC TCT GGA CCA ACA GGA TGT AGC TGA AGT GAA 237
 CCT CTC TCA VGT GAA TGG AGA GCA CGG SGT GAA TCT AGC GAG SGT GCA CAG AGC KAA GAG MGT GTC AGT GGA VGT GGG GGC FGT VGT GGG GGC TIC GTG CTC 180
 ACC FTC GAG ACC CTC VGT GAA TCA GTT CTC CGG SGT GGA EAG GTT YAC ACC FGT GAA VGT EAG HAC CCA AGC PGT GAA TGT AGC AGC 694

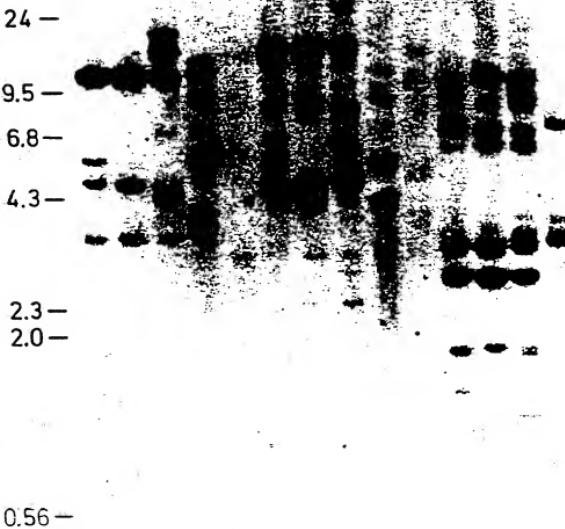


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FIG. 8

Eco RI					Bam HI					Hind III				
1	2	3	4	5	1	2	3	4	5	1	2	3	4	



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FIG. 9

Region I

AA	8	9	10	11	12	13	14
	L	E	L	L	K	S	E
HLA-DR- β -A	TTG	GAG	CTG	CTT	AAG	TCT	GAG
HLA-DR- β -	TTG	GAG	CAG	GTT	AAA	CAT	GAG

Region II

AA	26	27	28	29	30	31	32
	F	L	E	R	H	F	H
HLA-DR- β -A	TTC	CTG	GAG	AGA	CAC	TTC	CAT
HLA-DR- β -	TTC	CTG	GAC	AGA	TAC	TTC	TAT

Region III

AA	72	73	74	75	76	77	78
	R	G	Q	V	D	N	Y
HLA-DR- β -A	CGG	GGC	CAG	GTG	GAC	AAT	TAC
HLA-DR- β -	CGG	GCC	CGG	GTG	GAC	ACC	TAC